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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/593,625	09/21/2006	Satoshi Hoshi	0649-1366PUS1	1927
2292 7590 06/05/2008 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER				
EOFF, ANCA				
ART UNIT		PAPER NUMBER		
1795				
NOTIFICATION DATE		DELIVERY MODE		
06/05/2008		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/593,625

**Applicant(s)**

HOSHI ET AL.

**Examiner**

ANCA EOOF

**Art Unit**

1795

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 and 12-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 12-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The foreign priority documents JP 2004-086216 filed on March 24, 2004, JP 2004-086217 filed on March 24, 2004 and JP 2004-089828 filed on March 25, 2004 were received and acknowledged. However, in order to benefit of the earlier filing dates, certified English translations are required.
2. Claims 1-8 and 12-14 are pending in the application. Claims 9-11 have been canceled.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

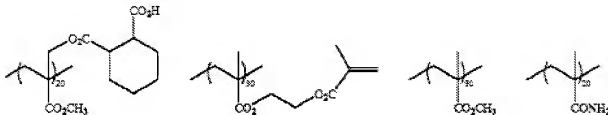
4. Claims 5-8 and 13-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Sugasaki et al. (US Pg-Pub 2003/0207204).

With regard to claims 5-8, Sugasaki et al. disclose a photosensitive composition specially suited to fabricate a lithographic printing plate precursor, said composition comprising:

- a polymerizable compound (monomer) (par.0073), equivalent to the component (B) of the instant application;
- a polymerization initiator, such as onium salts (par.0083, par.0085), equivalent to the component (A) of the instant application.

Art Unit: 1774

- a polymer with a radical polymerizable group (par.0008), which may be represented by the formula (I):



(I) (polymer P-16 in par.0067), equivalent to the copolymer (E) of the instant application.

In the polymer of formula (I) above:

- the first repeating unit comprises a surface adsorptive group, as disclosed on page 46 of the specification of the instant application so the first repeating group is equivalent to the unit (a2) of the instant application.

- the second repeating unit comprises a polymerizable group so it is equivalent to the unit (a1) of the instant application.

- the fourth unit comprises a hydrophilicity imparting group (-CO-NH<sub>2</sub>), as disclosed on page 47 of the specification of the instant application.

The photosensitive composition may be exposed with lasers, such as Ar ion laser (364 or 351 nm), Kr ion laser (356 nm or 351 nm) and He-Cd laser (325 nm) (par.0331), which shows that the composition has sensitivity for radiation of the above-mentioned wavelength.

Sugasaki et al. further disclose that by choosing highly water-soluble materials for the photosensitive layer, the plate precursor can be processed by

on-press exposure and development (par.0334), which is equivalent to the development with ink and/or fountain solution of the instant application.

With regard to claims 13-14, Sugasaki et al. disclose that the printing plate can be exposed with lasers, such as as Ar ion laser (364 or 351 nm), Kr ion laser (356 nm or 351 nm) and He-Cd laser (325 nm), a combination of Nd: YAG and two SHG crystals (355 nm) (par.0331).

Sugasaki et al. further disclose that the printing plate precursor can be processed by on-press exposure and development, which means that the development is done with printing ink and/or fountain solution and then printing is performed (par.0334).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-2, 4 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Higashi et al. (US Pg-Pub 2003/0049564) and in further view of Sunichi et al. (JP 2003-223007).

With regard to claim 1, Sugasaki et al. disclose a photosensitive composition specially suited to fabricate a lithographic printing plate precursor, said composition comprising:

- a linear organic polymer as a binder (par.0069), equivalent to the component (C) of the instant application;
- a polymerizable compound (monomer) (par.0073), equivalent to the component (B) of the instant application, and
- a polymerization initiator (par.0083), equivalent to the component (A) of the instant application.

In fabricating a lithographic printing plate, the photosensitive layer is desirably formed on a support having a treated surface to form a priming layer (par.0315). However, Sugasaki et al. fail to disclose that the priming layer comprises the compound required by the instant application.

Higashi et al. disclose a method of preparing a lithographic printing plate, wherein a photopolymerizable light-sensitive composition comprising an ethylenically unsaturated compound, a photopolymerization initiator and a resin binder is applied to an aluminum substrate, is exposed and developed (abstract). The lithographic printing plate may comprise a subcoat between the support and the light-sensitive layer (par.0191), said subcoat being equivalent to the priming layer of Sugasaki et al. and to the undercoat layer of the instant application. The subcoat is formed by a subcoat subcoating composition comprising PHOSMER PE8 from Unichemical Co. (table in par.0191), which has the formula  $\text{CH}_2=\text{C}(\text{CH}_3)\text{COO}(\text{C}_2\text{H}_4\text{O})_n\text{P}=\text{O}(\text{OH})_2$ , wherein  $n=8$  (as disclosed on page 41 of

Art Unit: 1774

the instant application). This compound meets the limitation of the instant application for a compound having a polymerizable group, a group of formula - $\text{OPO}_3\text{H}_2$  and a group of formula  $-(\text{OCH}_2\text{CH}_2)_n$ , wherein  $n$  is between 1 and 50.

Since the liquid subcoating composition of Higashi et al. is successfully used as subcoat/priming layer/undercoat for a light sensitive layer of a lithographic printing plate (see results for Example 16 in Table 3, par.0195), it would have been obvious to one of ordinary skill in the art at the time of the invention to use the subcoating composition of Higashi et al. for the priming layer of Sugasaki et al., with a reasonable expectation of success.

Sugasaki et al. further disclose that the photosensitive composition may be exposed with lasers, such as Ar ion laser (364 or 351 nm), Kr ion laser (356 nm or 351 nm) and He-Cd laser (325 nm) (par.0331), which shows that the composition has sensitivity for radiation of the above-mentioned wavelengths.

Sugasaki et al. further disclose that by choosing highly water-soluble materials for the photosensitive layer, the plate precursor can be processed by on-press exposure and development (par.0334), which is equivalent to the development with ink and/or fountain solution of the instant application.

However, Sugasaki et al. and Higashi et al. fail to disclose that the exposure is performed with a one-pixel drawing time of 1 millisecond or less.

Sunichi et al. disclose a method of making a printing plate (par.0001), the method comprising an exposure step using a DMD (digital mirror device) as aligner (par.0004, par.0017) and radiation with a wavelength between 350 nm

Art Unit: 1774

and 450 nm (par.0017). The exposure time per pixel is between 1 and 100 microseconds (par.0018).

A plate that shows good properties regarding the handling during the production process and good printing durability can be obtained (par.0007).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to perform the exposure process of Sugasaki et al. with a one-pixel exposure/drawing time of 1-100 microseconds as disclosed by Sunichi et al., with a reasonable expectation of success.

With regard to claims 2 and 4, Sugasaki et al. disclose that the printing plate can be exposed with lasers, such as a combination of Nd: YAG and two SHG crystals (355 nm) (par.0331) and the exposure mechanism includes an internal drum system (par.0334).

With regard to claim 12, Sugasaki et al. further disclose that the printing plate precursor can be processed by on -press exposure and development (par.0334), which means that the development is done with printing ink and/or fountain solution and then printing is performed.

7. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Higashi et al. (US Pg-Pub 2003/0049564) and Sunichi et al. (JP 2003-223007) as applied to claim 1 above and in further view of Fujii et al. (US Pg-Pub 2002/0180944).



With regard to claim 3, Sugasaki modified by Higashi and Sunichi teach a photosensitive composition and a method of exposing the photosensitive composition as applied to claim 1 above (see paragraph 6 of the Office Action) but fail to teach that the exposure is performed using an optical system comprising a DMD (digital mirror device) or a GLV (grating light valve).

Fujii et al. disclose an exposure device comprising a scanner including a high-power laser light for emitting a light beam within a predetermined wavelength region and a photosensitive material that is sensitive to the predetermined wavelength region, using said light beam which is modulated in accordance with image data (par.0022). A predetermined wavelength region is preferably 350 nm to 420 nm and more preferably 405 nm at which a maximum power can be outputted by using an inexpensive GaN semiconductor laser (par.0026). An example of photosensitive material is a planographic printing plate (par.0045).

It is preferably that the exposure portion comprises a spatial light modulator to modulate the light beam, such as a digital mirror device (DMD) or grating light valve elements (GLV) of a reflective diffracting grating type (par.0028).

Fujii et al. further disclose that such spatial modulators can be used with high stability even if the high-power laser light source outputs several tens of dozen watts and so it is possible to improve the reliability of the exposure device even when the exposure is conducted by using high-power laser sources (par.0028).

Therefore, it would have been obvious for one of ordinary skill in the art at the time of the invention to perform the exposure of the photosensitive composition of Sugasaki et al. using the exposure device with DMD or GLV spatial modulators and laser radiation of 405 nm as disclosed by Fujii et al., in order to take advantage of the improved reliability of the exposure device (Fujii et al., par.0028) and of a relatively inexpensive source of radiation (Fujii et al., par.0026).

### ***Response to Arguments***

8. The rejection of claim 7 under 35 USC 112-second paragraph is withdrawn following the applicant's amendment to the claim.
9. Applicant's arguments filed on March 03, 2008 with respect to the amended claims 1-4 and 12 have been considered but are moot in view of the new grounds of rejection.
10. Applicant's arguments, filed on March 03, 2008, with respect to the rejections of claims 5, 8-9, 13-14 under 35 USC 103 (a) over Sugasaki et al. (US Pg-Pub 2003/0207204) and the rejection of claims 6-7 under 35 USC 103 (a) over Sugasaki et al. (US Pg-Pub 2003/0207204) in view of Brabbs (US Patent 6,495,309) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection for claims 5-8 and 13-14 is made in view of Sugasaki et al. (US Pg-Pub 2003/0207204).

***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anca Eoff whose telephone number is 571-272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Alexa Neckel can be reached on 571-272-1446. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./  
Examiner, Art Unit 1795

Art Unit: 1774

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795